

Calregulin (F-4): sc-373863

BACKGROUND

Calnexin and Calregulin (also called calreticulin) are calcium-binding proteins that are localized to the endoplasmic reticulum, Calnexin to the membrane and Calregulin to the lumen. Calnexin is a type I membrane protein that interacts with newly synthesized glycoproteins in the endoplasmic reticulum. It may play a role in assisting with protein assembly and in retaining unassembled protein subunits in the endoplasmic reticulum. Calregulin has both low- and high-affinity calcium-binding sites. Neither Calnexin nor Calregulin contains the calcium-binding "E-F hand" motif found in calmodulins. Calnexin and Calregulin are important for the maturation of glycoproteins in the endoplasmic reticulum and appear to bind many of the same proteins.

REFERENCES

- Smith, M.J. and Koch, G.L. 1989. Multiple zones in the sequence of calreticulin (CRP55, Calregulin, HACBP), a major calcium binding ER/SR protein. *EMBO J.* 8: 3581-3586.
- David, V., et al. 1993. Interaction with newly synthesized and retained proteins in the endoplasmic reticulum suggests a chaperone function for human integral membrane protein IP90 (Calnexin). *J. Biol. Chem.* 268: 9585-9592.

CHROMOSOMAL LOCATION

Genetic locus: CALR (human) mapping to 19p13.2; Calr (mouse) mapping to 8 C3.

SOURCE

Calregulin (F-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-45 near the N-terminus of Calregulin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Calregulin (F-4) is available conjugated to agarose (sc-373863 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373863 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373863 PE), fluorescein (sc-373863 FITC), Alexa Fluor® 488 (sc-373863 AF488), Alexa Fluor® 546 (sc-373863 AF546), Alexa Fluor® 594 (sc-373863 AF594) or Alexa Fluor® 647 (sc-373863 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373863 AF680) or Alexa Fluor® 790 (sc-373863 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373863 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

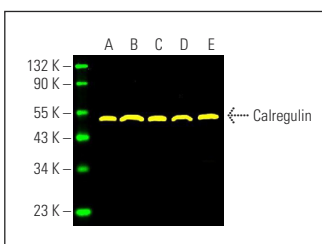
Calregulin (F-4) is recommended for detection of Calregulin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Calregulin siRNA (h): sc-29234, Calregulin siRNA (m): sc-29895, Calregulin siRNA (r): sc-63293, Calregulin shRNA Plasmid (h): sc-29234-SH, Calregulin shRNA Plasmid (m): sc-29895-SH, Calregulin shRNA Plasmid (r): sc-63293-SH, Calregulin shRNA (h) Lentiviral Particles: sc-29234-V, Calregulin shRNA (m) Lentiviral Particles: sc-29895-V and Calregulin shRNA (r) Lentiviral Particles: sc-63293-V.

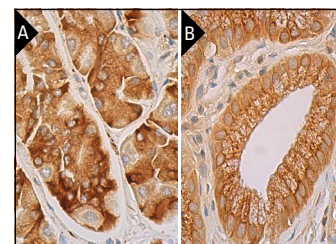
Molecular Weight of Calregulin: 55 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

DATA



Calregulin (F-4) Alexa Fluor® 488: sc-373863 AF488. Direct fluorescent western blot analysis of Calregulin expression in MCF7 (A), NIH/3T3 (B), Hep G2 (C), RA12 (D) and Jurkat (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 680: sc-516730.



Calregulin (F-4): sc-373863. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach (A) and human gall bladder (B) tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Jian, J., et al. 2016. Progranulin recruits HSP 70 to β-glucocerebrosidase and is therapeutic against gaucher disease. *EBioMedicine* 13: 212-224.
- Men, Y., et al. 2019. Exosome reporter mice reveal the involvement of exosomes in mediating neuron to astroglia communication in the CNS. *Nat. Commun.* 10: 4136.
- Ravodina, A.M., et al. 2020. Facile cholesterol loading with a new probe ezFlux allows for streamlined cholesterol efflux assays. *ACS Omega* 5: 23289-23298.
- Sequeira, G.R., et al. 2021. Enhanced antitumor immunity via endocrine therapy prevents mammary tumor relapse and increases immune checkpoint blockade sensitivity. *Cancer Res.* 81: 1375-1387.

RESEARCH USE

For research use only, not for use in diagnostic procedures.